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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/079,073	02/20/2002	Shrenik Deliwala	53168-500301D8	7412

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Wendy W Koba Esq
P O Box 556
Springtown, PA 18081

EXAMINER	
DOAN, JENNIFER	
ART UNIT	**PAPER NUMBER**
2874	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Response to Rule 312 Communication	Application No.	Applicant(s)	
	10/079,073	DELIWALA, SHRENIK	
	Examiner	Art Unit	
	Jennifer Doan	2874	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

1. ☒ The amendment filed on *07 March 2004* under 37 CFR 1.312 has been considered, and has been:

a) ☒ entered.

b) ☐ entered as directed to matters of form not affecting the scope of the invention.

c) ☐ disapproved because the amendment was filed after the payment of the issue fee.
Any amendment filed after the date the issue fee is paid must be accompanied by a petition under 37 CFR 1.313(c)(1) and the required fee to withdraw the application from issue.

d) ☐ disapproved. See explanation below.

e) ☐ entered in part. See explanation below.

The amendment to the specification, filed on 03/07/2004, are accepted.

Jennifer Doan

JD
March 24, 2004

Phan T. H. Palmer

PHAN T. H. PALMER
PRIMARY EXAMINER

IN THE SPECIFICATION:

Please amend the paragraph beginning at line 18 of page 102 to read as follows:

--FIG. 51 illustrates certain optical principles of concern to an integrated optical/electronic circuit 103 design. The waveguide 106 has a refractive index of n_{Si} while the light coupling portion 5110 ~~formed from silica~~ has a refractive index of n_i. The angle at which light in the light coupling portion 5110 contacts the gap portion 5106 is θ_i. By comparison, the angle at which the light enters the waveguide 106 is the mode angle, θ_m. The mode angle θ_m varies for each mode of light traveling within the waveguide. Therefore, if the waveguide 106 can support one or more waveguide modes, there will be a plurality of mode angles θ_{m1}, θ_{m2}, ... and θ_{mx} depending on the number of modes. For example, a region of the waveguide 106 in one embodiment has a height of 0.2μ formed from silicon that is surrounded by the evanescent coupling region 5106 and the first electrical insulator layer 104 (both of which are formed from glass), supports only a single TE mode angle θ_m of approximately 56 degrees. The requirements for incident light is that the incident angle θ_i satisfies equation 23:

$$n_i \sin \theta_i = n_{Si} \sin \theta_m \qquad 23$$

where θ_m is the mode angle of any particular mode of light.--

OK to enter JD 03/24/04

Please change the paragraph beginning at line 9 of page 103 to read as follows:

--There are specific requirements for the index of the evanescent coupling region 5106, also known as the gap region. The refractive index of the evanescent coupling region 5106 has to be very close to that of the upper cladding of the waveguide 106. In general, the upper cladding of the waveguide 106 will be one of the often-used materials such as glass, polyamide, or other insulators used in construction of active electronics. The evanescent coupling region 5106 may be made from the same material, air, or filled with a polymer-based adhesive that has a similar refractive index. It is desired for the waveguide to have very close to the same effective mode index in the regions adjacent the evanescent coupling region 5106 as in regions remote from the evanescent coupling region 5106.--